

Number 2 – May 8, 2017

## **Hello, Weeds of Yellow!**

Yellow flowers are eye-catching. The descriptions of a few that have been garnering attention this spring follow.

**Butterweed**, also known as cressleaf groundsel, is additionally known as *Senecio* by many. The latin name was *Senecio glabellus* for many years but was changed in the last few years to *Packera glabella*. Other common names include ragwort and squawweed. Regardless of what you may call it, this is a weed we have been seeing much more frequently in recent years although it is native to North America. It tends to prefer cool, wet conditions and is common in fields and roadsides. It has been known to find its way into nearby landscape beds.

Butterweed is a winter annual that grows erect on a hollow, succulent, smooth stem from a basal rosette. Stems are typically green but can have a reddish coloring as well, often in vertical stripes. Stems can reach 3 ft. in height. Leaves along the stem are deeply lobed, smooth, and often glossy. The flowers of this aster are somewhat distinct. Appearing in clusters at the end of the stems, they are bright yellow or golden. Unopened flowers are somewhat rounded in shape. Slightly lighter colored outer ray petals number 5 to 15 and surround the slightly darker colored disk florets. The number of petals is useful in differentiating between this species and

other yellow weeds in bloom at this time. The seed heads are dandelion-like puffballs which are disseminated by the wind.

**Fig buttercup (*Ficaria verna* or *Ranunculus ficaria*) or lesser celandine** is a short, invasive perennial. Introduced as a garden ornamental, it is quickly becoming a serious invasive in Illinois. Mats of leaves can dominate forest floors blocking light to native plants. It is often seen in moist areas in lawns or adjacent wooded areas, near streams. It grows in moist soil of floodplains and seepage areas. It has appeared in wooded wetlands, both in open sun and in shaded areas.

The flowers are attractive, up to 3 inches wide, and aid greatly in identification. They are usually 8-petaled and on stalks. Lesser celandine flowers profusely and deer don't seem to like to eat the plants. From a distance, it could be mistaken for marsh marigold (*Caltha palustris*) however.

The leaves can be irregular in shape but are generally heart-shaped or kidney-shaped. Size is variable but they are shiny, succulent, and often dark green. Once the flowers die back, bulblets (bulbils) are visible above the ground. It has small tubers that aid with spread and allow it to overwinter. Leaves and basal rosettes appear again in late winter.

### **Yellow hawkweed or field hawkweed**

(*Hieracium caespitosum*) is a creeping perennial that forms patches via both stolons and rhizomes. The leaves are densely hairy and form rosettes. Similar to dandelion, the stems exude a white, milky sap when crushed and the flowers are bright yellow ray flowers. Yellow hawkweed flowers however are smaller and are produced in clusters of 2 or more at the top of 10-20 inch stalks. Unopened flower buds are covered with rows of black hairs. This weed is typically found in low-maintenance turf and roadsides. It is often an indicator of soils that are acidic and low in fertility. Similar species include orange hawkweed which has bright orange flowers instead of yellow and common catsear which has irregularly lobed leaf margins. There are several species of hawkweed that can be found in Illinois. For a list, refer to <http://www.inhs.illinois.edu/data/plantdb/list/genus-name/Hieracium>. (Michelle Wiesbrook)

### **Gymnosporangium Rusts on Eastern Red Cedar**

Gymnosporangium rusts have been active in many parts of the state for a few weeks. Three Gymnosporangium rusts commonly affect trees in Illinois landscapes: Cedar-apple rust, Cedar-hawthorn rust, and Cedar-quince rust. As their name suggests, these pathogens require two hosts to complete their life cycles. A portion of each disease's life cycle occurs on Juniper (*Juniperus* spp.) hosts, while the remainder occurs on one of several deciduous host within the Rosacea family. These rust pathogens overwinter on Eastern red cedar and other *Juniperus* spp. as hard and pitted

galls or spindle shaped swellings on young branches. Galls are light brown to reddish or chocolate brown and range from 1/8 inch to 2 inches in diameter. Galls formed on evergreen hosts are not usually damaging, but serve as an important stage in each pathogen's life cycle. Over the past few weeks, telial sporehorns have emerged from overwintering galls. The sporehorns have a distinct, orange, gelatinous appearance. Sporehorns swell when moisture is present, then discharge spores as the dry. Discharged spores can be carried several miles by wind, but mostly infect susceptible trees within several hundred feet. Sporehorns exhaust all their spores approximately 30 days after apples and crabapples have bloomed.

Apples, crabapples, hawthorns and quince are some of the more commonly affected deciduous species. They are also the hosts we are most concerned about when we apply controls. Infections to deciduous hosts occur in the spring, beginning as apples and crabapples are in their pink-bud to early bloom stage. This timeframe coincides with the development of sporehorns on *Juniperus* spp. Cedar-apple rust and Cedar-hawthorn rust causes mostly aesthetic injury in the form of pale yellow to orange leaf spots often with a reddish border. Severe infection may result in moderate defoliation, especially during dry summers. Cedar-quince rust can be quite damaging to hawthorn, causing deformed swellings, galls, infected fruit, and stem tip dieback.

The most common control strategies for Gymnosporangium rusts in the landscape focus on protecting the deciduous hosts. These recommendations start with utilizing resistant or immune spe-

cies and varieties. Though not always practical or feasible, infections to broad-leaved hosts can be reduced by removing unwanted host trees within a ½ mile radius. Overwintering galls can also be hand-picked or pruned from small junipers during the fall and winter months. Fungicide sprays are effective at protecting susceptible trees from infection, but are rarely utilized on Juniper hosts. Fungicides are applied to deciduous hosts beginning at the pink-bud stage, with re-applications at labeled intervals until 1-2 weeks after petal fall. It is too late to begin protective spray for this year's foliage. However, you can make note of susceptible trees, and treat those at the appropriate time next spring. Fungicide options are listed in the Commercial Landscape & Turfgrass Pest Management Handbook and the Pest Management for the Home Landscape.

The Report on Plant Disease (RPD): Rust Diseases of Apples, was updated this past December and can be viewed via the following link:

[http://extension.cropsciences.illinois.edu/fruitveg/pdfs/802-Rust\\_Diseases-2015.pdf](http://extension.cropsciences.illinois.edu/fruitveg/pdfs/802-Rust_Diseases-2015.pdf) (Travis Cleveland)

### Modified Growing Degree Days (Base 50°F, March 1 through May 4)

Station Location	Actual Total	Historical Average (11 year)	One-Week Projection	Two-Week Projection
Freeport	200	182	265	335
St. Charles	214	177	277	342
DeKalb	215	203	287	362
Monmouth	310	238	387	471
Peoria	390	265	472	558
Champaign	341	265	424	513
Springfield	440	300	531	630
Perry	433	294	515	605
Brownstown	486	346	581	681
Belleville	501	366	599	704
Rend Lake	548	402	654	764
Carbondale	526	386	624	726
Dixon Springs	603	424	706	815

Insect development is temperature dependent. We can use [degree days](#) to help predict insect emergence and activity. Home, Yard, and Garden readers can use the links below with the degree day accumulations above to determine what insect pests could be active in their area.

[GDD of Landscape Pests](#)

[GDD of Conifer Pests](#)

Degree day accumulations calculated using the [Illinois IPM Degree-Day Calculator](#) (a project by the Department of Crop Sciences at the University of Illinois and the Illinois Water Survey). (Kelly Estes)

### Brown Marmorated Stink Bug Information for Homeowners

The brown marmorated stink bug (BMSB) should be old news for Illinois residents by now. What may be new to some though, is its increased numbers in their homes. While it is quickly becoming the time of year where these insects are found outdoors, many people reported seeing this pest for the first time in their homes last winter.

Discovered in Illinois in 2010, BMSB has now been confirmed in 40 counties. We suspect it is much wider spread than this, but have not had samples or photos submitted from unconfirmed counties.

As temperatures continue to warm, sightings within homes should decrease as they move out into the environment. These insects feed on over 300 different plants, including many that are included in home gardens. Examples of host plants:

- Small fruit – grapes, blueberry, raspberry
- Vegetables – tomatoes, sweet corn, peppers, green beans
- Field Crops – soybeans, field corn, sunflowers
- Ornamental plants – princess tree, viburnum, rose, honeysuckle, maple, walnut, butterfly bush

A full list of host plants can be found at: <http://www.stopbmsb.org/where-is-bmsb/host-plants/>

We encourage homeowners and gardeners to be vigilant and report possible stink bug injury. BMSB feed on plants by inserting their long beaks into the fruit, vegetable or leaf tissue resulting in pitting, discoloration and rotting of fruit. (Kelly Estes)

### **Viburnum Leaf Beetle Activity Observed in Northern Illinois**

Another invasive pest that is gaining notoriety in Illinois is the viburnum leaf beetle. This defoliating insect has been reported for several years in northeastern Illinois; in recent years reports of damage have become more widespread in that area. Our first reports of larval activity has been reported in Cook and DuPage counties over the last week and a half.

Viburnum leaf beetles overwinter as eggs on twigs of the host plant. In May, larvae hatch from the overwintered eggs and begin feeding on host plants. The larvae are greenish-yellow and develop dark spots as they age. They are usually found feeding in groups. Between early and mid-June, larvae drop to the ground

and pupate. They remain in the ground for about 10 days. Adult emergence generally occurs from mid- to late July. The adult beetle is small, ¼ to 3/8 of an inch long and is a golden brown color with sheen when in sunlight. Adults will remain active until the first frost. Development from egg to adult takes eight to ten weeks. In late summer and fall, females will begin laying eggs. They chew holes in the bark of twigs to deposit eggs and then cover them with excrement and fragments of chewed bark. A female can lay up to 500 eggs.

Feeding is limited to species of viburnum. The viburnum leaf beetles have a preference for viburnums with little hair (pubescence) on the foliage, including the European cranberrybush viburnum, arrowwood viburnum, and American cranberrybush viburnum. They also feed on wayfaringtree viburnum, Rafinesque viburnum, mapleleaf viburnum, nannyberry viburnum, and Sargent viburnum. There are several resistant varieties, including Korean-spice viburnum, Burkwood viburnum, doublefile viburnum, Judd viburnum, lanatanaphyllum viburnum, and leatherleaf viburnum.

#### **Highly susceptible:**

[\*V. dentatum\*](#) complex, arrowwood viburnums  
*V. nudum*, possum-haw, smooth witherod viburnum  
[\*V. opulus\*](#), European cranberrybush viburnum  
[\*V. opulus\*](#) var. *americana* (formerly *V. trilobum*), American cranberrybush viburnum  
*V. propinquum*\*, Chinese viburnum, Taiwanese viburnum  
*V. rafinesquianum*, Rafinesque viburnum

**Highly susceptible** species are the first to be attacked, and are generally destroyed in the first 2-3 years following infestation.

**Susceptible:**

[V. acerifolium](#), mapleleaf viburnum  
[V. lantana](#), wayfaringtree viburnum  
*V. rufidulum*, rusty blackhaw, southern black-haw  
[V. sargentii](#), Sargent viburnum  
[V. wrightii](#), Wright viburnum

**Susceptible species** are eventually destroyed, but usually are not heavily fed upon until the most susceptible species are eliminated.

**Moderately susceptible**

*V. alnifolium* (syn. [V. lantanooides](#)), hobblebush  
[V. burkwoodii](#), Burkwood viburnum  
[V. x carlcephalum](#), Carlcephalum viburnum  
[V. cassinooides](#), witherod viburnum  
[V. dilatatum](#), linden viburnum  
[V. farreri](#), fragrant viburnum (except 'Nanum', which is highly susceptible)  
[V. lantanooides](#) (syn. *V. alnifolium*), hobblebush  
[V. lentago](#), nannyberry viburnum  
[V. macrocephalum](#), Chinese Snowball Viburnum  
*V. x pragense*, pragense viburnum  
[V. prunifolium](#), blackhaw viburnum  
[V. x rhytidophylloides](#), lantanaphyllum viburnum  
*V. tinus\**, laurustinus viburnum

**Moderately susceptible** species show varying degrees of susceptibility, but usually are not destroyed by the beetle.

**Viburnum most resistant to the viburnum leaf beetle:**

*V. bodnantense*, dawn viburnum  
[V. carlesii](#), Koreanspice viburnum  
*V. davidii\**, David viburnum  
[V. x juddii](#), Judd viburnum  
*V. plicatum*, doublefile viburnum  
[V. plicatum var. tomentosum](#), doublefile viburnum

[V. rhytidophyllum](#), leatherleaf viburnum  
[V. setigerum](#), tea viburnum  
[V. sieboldii](#), Siebold viburnum

**Resistant species** show little or no feeding damage, and survive infestations rather well. Most species in all susceptibility groups exhibit more feeding damage when grown in the shade.

(Source: <http://www.hort.cornell.edu/vlb/suscept.html>)

In regards to management options, Cornell has a very helpful management guide for homeowners (<http://www.hort.cornell.edu/vlb/management.html>). At this time of year, for homeowners who are experiencing defoliation, the best option is going to be pesticides. It is important to make sure larvae are present and to make a thorough application so the pesticide comes in direct contact with the larvae. Spraying adults or eggs is less effective. There is some information on the use of horticultural oils and insecticidal soaps (<http://www.hort.cornell.edu/vlb/newtools.html>).

The viburnum leaf beetle, a native to Europe, was brought to North America on infected viburnums. While it is established in several northeastern states, we've only confirmed this pest in two counties in Illinois. If your viburnum plants are showing signs of defoliation, please keep your eyes open for larvae now or Viburnum Leaf Beetle adults during the summer. Residents are urged to report suspected infestations; we are continuing to gather information on where this pest is in Illinois. If you see this pest or have questions, please contact or Kelly Estes at the Illinois Natural History Survey - Cooperative Agricultural Pest Survey [kcook8@illinois.edu](mailto:kcook8@illinois.edu). (Kelly Estes)

## Chipmunk vs. Ground Squirrel

Two little furry creatures run around yards, potentially wreaking havoc on plants and the soil: the Eastern chipmunk and the thirteen-lined ground squirrel. They can be easily confused and are often treated as one.

The Eastern chipmunk is a reddish brown to tan type of ground rodent with several alternating dark and light stripes (typically around 5) on its back and sides and sides of its head, with cream-colored fur on the stomach. Ears are rounded and often erect like a cat. The tail is somewhat furry and fat, but not bushy and usually held erect as it scurries about the yard. The chipmunk is about five to six inches long.

The chipmunk has great cheek pouches, which they can stuff with food. You're more likely to find the Eastern Chipmunk on the edge of wooded areas or in yards with lots of trees, shrubs and perennials. You can see them scurry partway up a tree. They are close relatives of tree squirrels. Burrows under sidewalks and driveways can cause their collapse.

There can be two litters per year, one in the spring and one in late summer. The Eastern chipmunk does not hibernate.

The 13-lined ground squirrel has just that: 13 stripes on the body, also running to the head but not on the cheeks like the chipmunk. The lighter stripes are yellowish-white while the dark ones are reddish brown. There are often spots on the stripes. Their ears are quite small. They have short bushy tails which they carry horizontally instead of upright.

Ground squirrels prefer more grassy areas such as pastures, golf courses, and cemeteries. There is only one generation per year, with the ground squirrels hibernating during the winter.

Both creatures are active during the day, and tend to be solitary, though you may have several in the landscape.

Food includes nuts, seeds, berries and many insects such as crickets, beetles and grasshoppers. Both the Eastern chipmunk and the 13-lined ground squirrel will tunnel under trees, shrubs, patios, sidewalks and flowerbeds, usually creating multiple openings, though the chipmunk usually has one main opening. Tunnels can be 20-30 feet long. The tunneling tends to cause more problems than the feeding.

No chemical products are labeled for control. Live trapping may be possible, but likely will not result in a "chipmunk/ground squirrel" free yard. Rat snap traps can be used, but may result in other creatures being caught. Fumigants may work but shouldn't be used under or around homes. Read and follow the directions on the label.

Research has shown that reductions in these mammals opens up suitable habitat areas, resulting in adjoining populations increasing reproduction to fill the void. Similarly, populations will rise to the carrying capacity and then reproduction will reduce to replacement rather than increase. In other words, if nothing is done, the number of these rodents will remain somewhat constant, but if individuals are removed, their numbers will rebound quickly. Make sure to avoid feeding the chipmunks or ground squirrels. Clean up

spilled birdseed. These and other actions to reduce food sources will lower the carrying capacity and numbers will naturally decrease. (David Robson)

### **Insect Degree Days and Phenology Update**

An article in the previous issue of this newsletter two weeks ago indicated that insects were approximately one week ahead in northern Illinois, and two weeks ahead of a normal spring in central and southern Illinois. Due to the cooler weather of the past two weeks, one can see from Kelly Estes' article in this issue on degree days that we are approximately two days ahead of normal on insect development in northern Illinois, four days ahead in central Illinois, but still about ten days ahead in southern Illinois.

As happened earlier this year, high temperatures during the last couple of weeks in the forties and low fifties degrees F have caused insect development to stay relatively static while plants have continued to progress in their development. An even wider gap has opened between insect and host plant development. Insect damage is reduced as their host plants have more leaf area than is usual when insects emerge to feed upon them.

To illustrate advanced plant development, bridlewreath spirea, *Spiraea X van houttei*, was in full bloom in the third week of April this year in central Illinois. It typically blooms in the second week of May. Another plant we use heavily in phenology is beauty bush, *Kolkwitzia amabilis*, which started blooming in central Illinois in the last week of April. It

typically blooms in the third week of May.

As can be seen above, though plants are considerably ahead in their development over a typical spring, insects are not. In our recommendations, we typically give both a calendar and plant phenology timing for management. This year, it is best to follow the calendar timing to scout for insect stages susceptible to control. They are going to be closer to the correct timing than phenology. (Phil Nixon)

### **Pest Watch**

**Viburnum leaf beetle** is controlled by pruning and destroying twigs containing eggs in the fall and winter to reduce larval numbers the following spring. Larvae are controlled by Acephate (Orthene), carbaryl (Sevin), cyfluthrin (Tempo), imidacloprid (Merit), lambda-cyhalothrin (Scimitar), spinosad (Conserve), and malathion. A spray application to young larvae in the spring is most effective in preventing damage. A second spray may be needed later in the growing season to control heavy adult feeding.

**European pine sawfly** larvae are present throughout the state feeding on Scotch, mugo, and other two and three needle pines. The larvae grow to about one inch long with dark and lighter green stripes. They have large black heads. Sawfly larvae can be distinguished from caterpillars by having six or more pairs of prolegs. Because the larvae feed in groups, hand-picking is an effective control. Spraying with acephate (Orthene), acetamiprid (TriStar), azadirachtin (Azatin, Bioneem, Ornazin),

carbaryl (Sevin), indoxcarb (Provaunt), or spinosad (Conserve) is also effective.

**Spruce spidermite, arborvitae mite, juniper mite, and pine mite** should still be feeding in central and northern Illinois. Spider mites are controlled with miticide sprays when the mites are active, make sure they are present by

knocking the grayish to green mites from branches onto white paper before application. Do not treat trees with high numbers of red or whitish predatory mites. Effective miticides include acequinocyl (Shuttle), bifenthrin (Onyx, Talstar), fenazaquin (Magus), insecticidal soap, spiromesifen (Forbid), and summer oil. (*Phil Nixon*)